1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on April 15, 2008 has been entered.

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

3. Claims 1, 4, 5, and 8-19 are rejected under 35 U.S.C. 102(b) as being anticipated by Haeberle et al. (‘367).

Patentees disclose dispersible polyisocyanate compositions, suitable for producing aqueous dispersions, coatings, and adhesives, wherein the dispersible polyisocyanates are produced by blending one or more polyisocyanates having a mean functionality of from 2.5 to 3.5 with an emulsifier produced by reacting a diisocyanate with a monohydric polyalkylene ether alcohol having 8 or more ethylene oxide units. Patentees further disclose that isocyanatoisocyanurates based on hexamethylene diisocyanate and/or isophorone diisocyanate are "particularly preferred". Biuret containing polyisocyanates and mixtures of the disclosed polyisocyanates are also disclosed as being suitable. See abstract; column 1, lines 7-28; column 2, lines 4+; column 3, lines 34+; column 4, lines 9+; column 5; and column 6, lines 1-6; especially column 2, line 66 through column 3, line 2. The position is taken that the disclosure that isocyanatoisocyanurates based on hexamethylene diisocyanate and/or isophorone diisocyanate are "particularly preferred" fully encompasses applicants' mixtures of components (A) and (B) and is adequate to anticipate the claims. With respect to applicants' claimed ranges for components (A), (B), and (C), the following positions are taken. Firstly, patentees teach at column 2, lines 48-53 that reaction product b), corresponding to applicants' component (C), is mixed with polyisocyanate a), corresponding to applicants' combined components (A) and (B), such that the formulation contains from 1 to 25 weight percent ethylene oxide units of the polyalkylene ether chains of reaction product b). While it is cumbersome to convert this disclosure to a percent content that corresponds to applicants' claimed range, it is clearly suggestive that a range that allows for minimal or reduced content of reaction product b), relative to the polyisocyanate, is contemplated. Furthermore, the examiner has calculated the percent content of reaction product b) within each example and finds the following. Examples 1-10 and

12 have from 16-17 weight percent of reaction product b), relative to the total formulation, and Example 11 has 10 weight percent of reaction product b), relative to the total formulation. These exemplified amounts fall squarely within applicants' claimed range for component (C). Therefore, with respect to the claimed percent content of component (C), the reference is clearly anticipatory. Secondly, as aforementioned, the position is taken that patentees clearly allow for the use of blends of the HDI-based polyisocyanate and the IPDI-based polyisocyanate, and though patentees do not specifically relate relative proportions of the respective polyisocyanates, the position is maintained, despite applicants' arguments, that one would have immediately envisioned polyisocyanate component amounts of the blend, such as 50:50 mixtures, that fall within the claimed percent contents. For example, though the examples do not disclose mixtures of polyisocyanate a), the examples disclose weight percent quantities of reaction product b) of 10 percent and 16-17 percent. This allows for a respective content of polyisocyanate of 90 percent and 83-84 percent. Given this determination and allowing for envisioned blends of 50:50, one arrives at a content of 45 percent of HDI-based component and 45 percent IPDI-based component or 41.5-42 percent of HDI-based component and 41.5-42 percent of IPDI-based component. It is noted that these weight percent quantities fall squarely within applicants' claimed ranges for components (A) and (B), respectively. Accordingly, it is logical to conclude that the reference is anticipatory.

4. The examiner has carefully considered applicants' response; however, the response is insufficient to overcome the prior art rejection. The examiner has considered applicants' argument with respect to what would be "immediately envisioned" from the teachings of the reference; however, though ratios of the mixtures are not recited, given the strong and clear

teachings that mixtures of polyisocyanates can be used, the position is taken that one considering the meaning of mixtures, would immediately envision a 50:50 blend. The examiner has also considered applicants' calculated weight percents for "(A)-like" and "(B)-like" components within pages 6-8 of the response and is at a total loss as to how applicants have arrived at these quantities. The examiner has made a sincere attempt to reproduce the argued quantities and finds absolutely no support for them. For applicants' edification, within the examples of the reference, the reaction product of the HMDI or TDI or MDI or TMXDI or HDI or IPDI with b1 corresponds to applicants' component (C) and a1 corresponds to the isocyanurate or biuret containing polyisocyanate.

5. Claims 1, 4-6, and 8-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Haeberle et al. ('367) in view of Morikawa et al. ('300).

As aforementioned, Haeberle et al. disclose dispersible polyisocyanate compositions, suitable for producing aqueous dispersions, coatings, and adhesives, wherein the dispersible polyisocyanates are produced by blending one or more polyisocyanates having a mean functionality of from 2.5 to 3.5 with an emulsifier produced by reacting a diisocyanate with a monohydric polyalkylene ether alcohol having 8 or more ethylene oxide units. Patentees further disclose that isocyanatoisocyanurates based on hexamethylene diisocyanate and/or isophorone diisocyanate are "particularly preferred". Biuret containing polyisocyanates and mixtures of the disclosed polyisocyanates are also disclosed as being suitable.

6. Even if it is determined that the argued disclosure within Haeberle et al. is insufficient to anticipate applicants' weight percent limitations of components (A) and (B), the position is taken that the production of dispersible polyisocyanate, wherein the polyisocyanate constitutes a blend

of isocyanurate of hexamethylene diisocyanate and isocyanurate of isophorone diisocyanate having a ratio range of HDI-based compounds to IPDI-based compounds that significantly overlaps that claimed, was known at the time of invention. This position is supported by Morikawa et al. See abstract; column 2, lines 15-47; column 3, lines 49-59; column 4, lines 17-26, and specifically, column 5, lines 25-42. Given applicants' claimed weight percent ranges for components (A), (B), and (C), the ratio range of applicants' component (A) to applicants' component (B) corresponds approximately to 95:5 to 33:67, and it is noted that Morikawa specifically discloses a preferred corresponding range of 95:5 to 35:65 at column 5, lines 29 and 30. It is further noted that the isocyanates are rendered dispersible by reacting them with a reactant fully analogous to that of Haeberle et al. and applicants. Morikawa et al. further disclose that their mixture is non-yellowing, is not deteriorated by weather, has high hardness, and is quick drying. Accordingly, the position is ultimately taken that one of ordinary skill would have been motivated to utilize blends of trimers (isocyanurate or biuret) of hexamethylene diisocyanate and isocyanurate of isophorone diisocyanate that satisfy the claimed quantitative ratios, as the high functionality polyisocyanate of the primary reference, so as to arrive at the instant invention. Furthermore, with respect to claim 6, in view of the secondary teachings, it would have been obvious to modify applicants' components (A) and (B) by reacting them with the nonionic group containing reactant.

7. The examiner has considered applicants' response; however, the response is insufficient to overcome the prior art rejection. Firstly, applicants are incorrect that the respective polyisocyanates are used in a proportion of 0-30 weight percent. The reference absolutely requires that a blend of HDI-based compounds and IPDI-based compounds or a blend of HDI-

based compounds and TDI-based compounds be used, and when a blend of HDI-based compounds and IPDI-based compounds are used, they are used in a preferred ratio range of 95:5 to 35:65 (see column 5, lines 29 and 30). There is no embodiment or teaching whatsoever that allows IPDI-based compounds in the blend of HDI-based compounds and IPDI-based compounds to be present in the argued amount of 0-30 weight percent. Applicants have confused the IPDI-based compound with aliphatic compound (2) set forth within column 2, lines 24-26. Accordingly, applicants' arguments based on the argued amount of 0-30 weight percent are entirely without merit. Secondly, applicants' examples have been considered for showings of unexpected results; however, the argued examples are insufficient to rebut the *prima facie* case of obviousness, because the examples are not commensurate in scope with the claims in terms of component or reactant species and ratios of components. One example of the deficiency is that applicants' exemplified emulsifier is based on a single specific polyethylene oxide monol and isocyanate; however, applicants' claims are not so limited. It has been held that the claims must be commensurate in scope with any showing of unexpected results. *In re Greenfield*, 197 USPQ 227. It has further been held that a limited showing of criticality is insufficient to support a broadly claimed range. *In re Lemin*, 161 USPQ 288. Lastly, the position is taken that applicants' results are not unexpected, since Morikawa et al. disclose that the use of their polyisocyanate blends yield compositions having high hardness. Morikawa et al. further disclose at column 5, lines 30-42 the relationship between hardness and the IPDI-based component; patentees make clear that decreasing the amount of IPDI-based component decreases hardness. This disclosure parallels applicants' results; therefore, applicants' results are not unexpected.

8. Claims 7 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Haeberle et al. ('367), alone, or Haeberle et al. ('367) in view of Morikawa et al. ('300) as applied to claims 1, 4-6, and 8-19 above, and further in view of Weyland et al. ('421).

As aforementioned, the teachings of Haeberle et al., alone, or Haeberle et al. in view of Morikawa et al. render the subject matter of claims 1, 4-6, and 8-19 at least *prima facie* obvious; however, the references are silent with respect to applicants' claimed solvents of claims 7 and 20. Still, the use of the claimed solvents with water emulsifiable polyisocyanates was known at the time of invention. The position is supported by the teachings of Weyland et al. See abstract and columns 2-4, especially column 3, line 47 through column 4, line 11. Since both Haeberle et al. and Morikawa et al. disclose that solvents may be used, the position is taken that it would have been obvious to utilize the solvents of Weyland et al. as the solvents of these references. This position is bolstered by the fact that it has been held that it obvious to utilize a known compound for its art recognized purpose. *In re Linder*, 173 USPQ 356. *In re Dial et al.*, 140 USPQ 244.

Any inquiry concerning this communication should be directed to R. Sergent at telephone number (571) 272-1079.

/Rabon Sergent/
Primary Examiner, Art Unit 1796

R. Sergent
June 5, 2008